EBIO 202: Introductory Biology II

Instructor: Scott E. Solomon, Ph.D.
Office: Herman Brown Hall #7
Office Hours: Wed 10 AM – Noon
Email: Scott.Solomon@rice.edu

Teaching Assistant: Dan Gorczynski
Office: GRB 204
Office Hours: Tues 2–4 PM
Email: daniel.gorczynski@rice.edu

Course Website: https://canvas.rice.edu/courses/20616

Overview
This is the second in a series of two introductory biology courses (BIOC 201, EBIO 202). In EBIO 202 you will study the variety of life that makes up this planet; you will learn about various species, their classification, functions, how they came into existence, and their interactions with each other and their environments. You will learn how evolution is central to a complete understanding of modern biology, and will be introduced to the science of ecology and its various sub-disciplines including population ecology, community ecology, and ecosystem ecology. You will learn how a comparative approach offers insight into human anatomy and physiology. We will also touch on conservation biology and restorative ecology. Group discussions will allow students to explore these topics in more detail and discover how they are relevant to our everyday lives.

Student Learning Objectives
By the end of this course, students will be expected to: (1) demonstrate a working knowledge of basic facts in the fields of ecology, evolutionary biology, biological diversity, and animal physiology; (2) demonstrate the ability to apply critical thinking and problem solving skills to evaluate research in the biological sciences; and (3) demonstrate an understanding of the modern scientific method. Additionally, I hope that students will (1) identify and reconsider any pre-conceived notions they may have had regarding ecology and evolutionary biology, and (2) gain a new perspective on humans, our evolutionary origins, and our relationship to the natural world.

Required Course Materials
1) Urry, L.A. et al. (2016) *Campbell Biology* 11th ed., Pearson, San Francisco.
2) Subscription to iClickerREEF

Class Meetings (MWF 9 – 9:50 am)
Class meetings are interactive, with a combination of lectures, discussions, videos, and activities (e.g. involving the use of the i>clicker remote). Class meetings will build on assigned readings and will cover material that is not covered in the textbook. **Students are expected to come to lecture with a working understanding of the assigned reading material**. Unless told otherwise, students are responsible for all material covered during class meetings. Class meetings will take place in **Brockman 101** (except for Discussion Sessions; see below)

Participation
Class meetings will include multiple choice questions that students will be expected to answer with the use the iClickerREEF system, which requires having an account registered to their name. Although grades will not be based on which answer is selected, students who select an answer to at least 80% of all questions throughout the semester will earn full participation points for the course.

Quizzes
Quizzes will be available online on the course website at 5 pm on the day prior to each lecture (with the exception of the first 3 lectures) and must be completed by 8 am on the day of the lecture. Quizzes will consist of 10 multiple choice questions (worth 1/2 point per question) that cover material presented in the preceding class plus knowledge gained by assigned reading material for the upcoming class. Once you have begun a quiz you will have 30 minutes to complete it. ***All quizzes are open-book, open-notes, closed-internet and no other aid except book/notes.***

Exams
There will be one midterm exam during the semester plus a 3-hour cumulative final exam. Both exams will be taken online via the course website during the designated exam time only. ***Exams are closed-book, closed-notes, and closed-internet***. You may take the exam on any computer with internet access at a location of your choosing, but you may not receive any outside assistance (including from classmates or other students) while taking the exam. During exams, the instructor and/or TA will be available for questions via an online chat interface. No make-up exams will be offered except for university-sponsored activities that are beyond the control of the student (e.g. varsity sporting events).

Discussion Sessions
Students will be assigned to a discussion session that will meet during class time eight times over the course of the semester (see schedule below). Participation in all discussion sessions is required for a passing grade. Grades for discussion sessions are broken down as follows: Preparation Forms (30 points), Participation (28 points), Oral Summary (2 points), Write-up (12 points), Presentation (12 points); more details on how discussion sessions are graded will be given by your group leader during the first discussion session.

Evaluation
Quizzes: 28 quizzes x 5 points each = 140 points
Exams: 2 exams x 100 points each = 200 points
Discussion Sessions: (see breakdown above) = 84 points
Lecture Participation: 70 points (answer 80% of clicker questions throughout semester)
Pre-test: 6 points (based on completion only; answer all questions to receive full credit)
Total points possible = 500

The minimum point thresholds for each course letter grade are given below:

Letter Grade:	D–	D	D+	C–	C	C+	B–	B	B+	A–	A	A+
Minimum Points Needed:	300	315	340	350	365	390	400	415	440	450	465	490

Honor Code
All quizzes and exams will be administered online via the course website. All quizzes are open-book, open-notes, closed-internet and no other aid except book/notes. Exams are closed-book, closed-notes, and closed-internet. Students are NOT allowed to work together on exams or quizzes. Any indication of a violation of this policy will result in an Honor Council investigation.

Disabilities
If you have a disability that will impact your coursework, please speak with me during the first two weeks of class. All discussions remain confidential. Additionally, you must contact Disability Support Services (http://dss.rice.edu/) located in the Allen Center, Room 111.

Course Schedule

Date	Topic	Quiz #	Concepts in Campbell	Pages (11th ed.)
Jan 7	Course Intro; Why evolution matters		1.1-1.4	1-24
Jan 9	History of Evolutionary Thought		22.1-22.3	466-474
Jan 11	Evidence for evolution	Pre-Test	22.3	475-482
Jan 14	Mechanisms of evolution I: Microevolution	1	23.1-23.4	484-502
Jan 16	Mechanisms of evolution II: Macroevolution	2	24.1-24.4	504-521
Jan 18	Reconstructing evolutionary history	3	26.1-26.5	550-566
Jan 21	*MLK Day -- No Class*			
Jan 23	* In-Class Discussion Sessions 1 *			
Jan 25	The Origin and History of Life	4	25.1-25.6; 32.2	523-547; 673-677
Jan 28	Microbial diversity	5	26.6; 27.1-27.6	566-568; 571-589
Jan 30	Protists	6	28.1-28.6	591-613
Feb 1	Plant Diversity	7	29.1-29.3; 30.1-30.4	616-632; 634-650
Feb 4	Fungi	8	31.1-31.5	652-669
Feb 6	* In-Class Discussion Sessions 2 *			
Feb 8	*Spring Recess – No Class*			
Feb 11	Invertebrates	9	32.1; 32.3-33.3; 33.5	671-673; 677-703; 711-713
Feb 13	Insects	10	33.4	703-711

Feb 15	Vertebrates I	11	34.1-34.3	716-728
Feb 18	Vertebrates II	12	34.4-34.6	728-743
Feb 20	* In-Class Discussion Sessions 3 *			
Feb 21	**Midterm Exam**			
Feb 22	Primates and Human Evolution	13	34.6-34.7	744-752
Feb 25	Feeding, nutrition, digestion, metabolism	14	40.1-40.4; 41.1-41.5	870-916
Feb 27	Circulation and Gas Exchange	15	42.1-42.7	919-947
Mar 1	Immune System	16	43.1-43.4	950-972
Mar 4	Osmoregulation and Excretion	17	44.1-44.5	975-994
Mar 6	* In-Class Discussion Sessions 4 *			
Mar 8	Endocrine System	18	45.1-45.3	997-1014
Mar 11-15	*Spring Break - No Class*			
Mar 18	Reproduction	19	46.1-46.5	1017-1038
Mar 20	* In-Class Discussion Sessions 5 *			
Mar 22	Nervous System	20	48.1-48.4; 49.1-49.5	1065-1098
Mar 25	Sensory Systems	21	50.1-50.6	1105-1134
Mar 27	* In-Class Discussion Sessions 6 *			
Mar 29	Animal Behavior	22	50.1-50.4	1137-1158
Apr 1	Ecology and the Biosphere	23	52.1-52.5	1162-1185
Apr 3	* In-Class Discussion Sessions 7 *			
Apr 5	Population Ecology	24	53.1-53.6	1188-1209
Apr 8	Community Ecology I	25	54.1	1208-1219
Apr 10	Community Ecology II	26	54.2-54.5	1220-1233
Apr 12	Ecosystems	27	55.1-55.5	1236-1255

Apr 15	Conservation Biology	28	56.1-56.5	1258-1282
Apr 17	* In-Class Discussion Sessions 8 *			
Apr 19	Wrap up and Review for final exam			
TBD*	**Final Exam**			

***Final Exam: During designated final exam period scheduled by the Registrar (exact date and time TBA)**